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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,995	07/11/2003	Ilan Calderon	1311OBT-US	2778

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EXAMINER
NGUYEN, HUONG Q

ART UNIT	PAPER NUMBER
3736	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

ED

Office Action Summary	Application No.	Applicant(s)	
	10/616,995	CALDERON ET AL.	
	Examiner	Art Unit	
	Helen Nguyen	3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the supplemental amendment filed 5/7/2007. Claims 1 and 6 are amended overcoming the previous §112 rejection. The previous drawing objection is also withdrawn in light of Applicant's arguments and new claim amendments. **Claims 1-7** remain pending.

Claim Objections

2. **Claims 2 and 4** are objected to because of the following informalities: **Claim 2** appears to recite the same at least one EMG sensor already introduced in Claim 1, and **Claim 4** recites "orientation" which lacks antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Garfield et al (US Pat No. 6816744) in view of Borkan (US Pat No. 6662053), further in view of Fuchs (US Pat No. 5747996).

5. In regards to **Claim 1**, Garfield et al disclose an electromyogram (EMG) system comprising at least one EMG sensor (201-204) positioned three-dimensionally on a patient (Col.

28: 13-15) and best seen in Figure 12, operative to sense electromyographic activity generated in muscle and output electrical muscular activity signals, best seen in Figure 5a and 8, and a processor (22), referred to as "computer," in communication with said EMG system, operative to process electrical muscular activity signals of said EMG system and along with other types of data, i.e. cardiac and brain activity (Col.8, line 20-30) as well as provide an output and display through monitor 23 of said electrical muscular activity signals as sensed by said at least one EMG sensor, best seen in Figure 3.

6. However, Garfield et al do not disclose at least one position sensor placed near said at least one EMG sensor and said processor in communication with said at least one position sensor to process three dimensional positions of said at least one EMG sensor from said at least one position sensor to provide an output and display of both said electrical muscular activity signals sensed by said at least one EMG sensor and the three dimensional positions of said at least one EMG sensor at the same time.

7. Borkan teaches that the position of EMG sensors (Col.5: 1-22) are determined to further determine the position of simulator electrodes, wherein the position is determined and displayed in conjunction with other pertinent data (Col.2: 30-33; Col.3: 1-14) as the result of processing by a processor 20 to ensure the proper positioning of the simulator electrodes for the desired application or use (Col.8: 52-57; Col.10: 9-21). However, Borkan does not explicitly disclose the position as three-dimensional and determined by a position sensor. Fuchs teaches a spatial position sensor 31, 32, 33 used to determine the position of another sensor, i.e. a magnetometer (Col.4: 19-21) relative to a reference element 6 as an effective device to determine the three

dimensional position (Col.3: 26-28) of said sensor for medical purposes (Col.2: 26-27; Col.4: 10-18).

8. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include at least one position sensor with the EMG system of Garfield et al and have the processor in communication with said EMG system and said at least one position sensor, said processor operative to process electrical muscular activity signals of said EMG system and three dimensional positions of said at least one EMG sensor from said at least one position sensor to provide an output and display of said electrical muscular activity signals as sensed by said at least one EMG sensor and the three dimensional positions of said at least one EMG sensor, as taught by Borkan and Fuchs collectively, to improve the device of Garfield et al by providing pertinent information indicating the three dimensional positions of said at least one EMG sensor 201-204 as placed on the patient when sensing electromyographic activity generated in the muscle and thus providing relevant information as to the position of the patient's uterine contraction for better monitoring purposes.

9. Furthermore, as Borkan disclose the display of the position information at the same time as other relevant information as explained above, it would have been obvious to one of ordinary skill in the art to have the processor of Garfield et al as modified by Borkan and Fuchs provide an output and display of said electrical muscular activity signals as sensed by said at least one EMG sensor and the three dimensional positions of said at least one EMG sensor at the same time, to impart the advantages of simultaneous relay of pertinent information to the patient and/or user for more efficient use and monitoring.

10. Although Garfield et al as modified by Borkan and Fuchs do not explicitly disclose placing the at least one position sensor near said at least one EMG sensor, it is obvious and well known to one of ordinary skill in the art that the sensing of the position of said at least EMG sensor requires that said at least one position sensor be placed near said at least one EMG sensor and thus should be placed as such for proper position monitoring.

11. In regards to **Claim 2**, Garfield et al disclose an EMG system comprising of at least one EMG sensor (201-204) and at least one reference EMG sensor (205) adapted to sense electromyographic activity generated in a muscle of interest and in a reference muscle, respectively (Col.23, line 20-22).

12. In regards to **Claim 3**, Garfield et al disclose a monitor (23) coupled to the processor to display the processed information from the processor.

13. In regards to **Claim 4**, Fuchs discloses a position sensing system adapted to measure the three dimensional position and orientation of said at least one position sensor 31-33 with respect to a reference position 6 fixed in space.

14. In regards to **Claim 5**, Garfield et al disclose a fetal cardiac unit (403) and tocodynamometer (401) as standard clinical devices useable in conjunction with the invention (Figure 7). Such standard devices inherently comprise of sensors used to obtain the necessary data. Thus, the fetal heart rate (FHR) sensor and TOCO sensor disclosed by Garfield et al may be referred to collectively as a CTG monitor. These sensors are connected to the EMG system, which in turn, are connected to the previously mentioned processor.

15. In regards to **Claim 6**, the collective CTG system comprising of fetal heart rate and TOCO sensors are connected to said processor. Garfield et al disclose sensors (17), such as those for fetal heart rate and TOCO of the collective CTG monitor, connected to the processor or "computer" (22) in Figure 1. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have said processor of Garfield et al as modified by Borkan and Fuchs operative to process data from said CTG monitor in addition to the data of said EMG system and the three dimensional position information from said at least one position sensor, as explained above, to provide an output and display of electromyographic activity data and CTG data and the three dimensional position of said at least one MEG sensor *at the same time*, for the purpose of advantageously relaying pertinent information simultaneously to the patient and/or user for more effective monitoring and use.

16. In regards to **Claim 7**, Garfield et al disclose a warning mechanism in communication with the processor, operative to issue a warning if the processed data processed by said processor is above a predefined limit, or other abnormalities, are found (Col.16, line 26-28).

Response to Arguments

17. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen Nguyen whose telephone number is 571-272-8340. The examiner can normally be reached on Monday - Friday, 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on 571-272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HQN
7/18/2007

JEN

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